ATTACHMENT 1 – TECHNICAL QUESTIONS AND ANSWERS

Question: 1 - Performance requirements/spec for CHP-1
There do not appear to be performance requirements/specifications listed in the solicitation documents or drawings for the new engine CHP-1. Please advise and/or provide.

Answer: This information is covered in specification SECTION 26 32 13.

Question: 2 - Site Visit
Will there be an official site visit scheduled?

Answer: An organized site visit took place on August 27, 2012 at 12:00PM (EDT). This site visit was announced in the Presolicitation Notice.

Question: 3 - Asbestos
Has a survey been performed on the interior lining of the existing boiler to be removed to determine if it contains any ACM?

Answer: Inspection and testing was completed of materials on Boiler #2 and no asbestos was detected. The survey results will be made available to the successful bidder.

Question: 4 - boiler stack
Is the existing boiler stack to boiler B-1 to be salvaged and re-used or are we to provide a new stack after relocation?

Answer: A new stack shall be provided.

Question: 5 - electrical trenching
Reference Drawing C100 General Note 22. This note states that the contractor is responsible for and is to include all costs for any utility relocations required due to the new electric trenching in their bid. The drawings provided do not show any existing utilities in the area where the work is required therefore being able to quantify and price relocations that may be required is not possible and makes this note quite unfair to all contractors involved. Please clarify how we are to handle this? Can an allowance be set for this potential work?

Answer: Areas of potential water line interferences are shown on C100. It is anticipated that the ductbank will be able to pass above these utilities but this has not been confirmed. An allowance is not acceptable.

Question: 6 - electrical trenching
At the walk through, the COTR mentioned that the facility wanted this project to start immediately and to have the required electrical trenching installed before the winter or any snowfall. That being the case, will the submittal process for this portion of the work be expedited accordingly to allow this to happen?

Answer: The COTR and Engineer will make every effort to expedite the submittal process.

Question: 7 - Outages
Note 1, the boiler house must stay fully functional. The gas main for all the boilers needs to be shut down to install valves. Can an 8-hour shut down occur or will a temporary boiler need to be installed?

Answer: Boilers will be fired on diesel oil when gas main outage to the building is required.

Question: 8 - Drawing C100
Drawing C100 indicates ductbank water and electrical crossing locations but it does not provide any details on the utilities crossed. Please provide the details on crossing utilities (service, size, depth, etc.)

Answer: Test pits were not conducted. ***See response to question 05***.

Question: 9 - Drawing PFP101
Drawing PFP101 Note 39 indicates that the fire protection pipe is to be 3". Note 42 says that the pipe is 2 ½", and Notes 40 and 41 indicate that is it 4". Please clarify.

Answer: The fire protection pipe at locations identified in Notes 39, 40, 41 and 42 shall be 4" diameter.

Question: 10 - Specification 018111-- Sustainable Design Requirements
Specification 018111 is for Sustainable Design Requirements. How is this specification applicable on a project that has already been designed? Do the drawings and specifications, as designed, already comply with all of the requirements detailed in this specification?

Answer: Project submittals shall comply by identifying sustainable design characteristics as defined in Specification 018111, as applicable by product.

Question: 11 - Section 1.4 of the Solicitation
Section 1.4 of the Solicitation indicates that the generator will be approximately 650kWe. The electrical drawing and specifications indicate sizing of 740-750kW. Is there a minimum allowable ISO Electrical Output required?

Answer: Minimum allowable ISO Electrical Output is 630 kWe.

Question: 12 - Drawing MP202
Drawing MP202 requires the Engine Manufacturer to coordinate all identified equipment to guarantee performance of the system. Please provide the CHP make and model that was used for the contract design.

Answer: The CHP system performance criteria are identified on drawing M601 and within specification SECTION 26 32 13.

Question: 13 - Drawing MP202
Drawing MP202 requires the Engine Manufacturer to coordinate all identified equipment to guarantee performance of the system. Please define what contract change process will need to be followed if the specified equipment performance requirements on these "Engine Associated" pieces of equipment need to be changed based on the selection of a different Engine Manufacturer.

Answer: No contract modifications will be made based on CHP engine selection. The engine manufacturer will be responsible for heat recovery and to ensure support equipment integrates with the engine generator set to perform as intended.

Question: 14 - Electrical
What is the size of the 5KV cable from the existing manhole to the new 1000KVA pad mount transformer?

Answer: Cable size is 3 #1/0 AWG, #6G for length from MH E-4 to new transformer.

Question: 15 - Drawing ED101
Drawing ED101 Key Note #15 states "Relocate existing conduits to avoid conflict with new CHP room." This note appears to be for (5) raceways, could you please provide the sizes of the raceways and conductors?

Answer: Raceways are five (5) 4" conduits. Cable size is 4 #500 MCM, #3G.

Question: 16 - Panel "P6"
Panel "P6" is to be relocated. Could you please provide the size of the panel feeder and the sizes and quantity of branch circuits that will need to be extended?

Answer: Panel size is 200A, with 2 ½" conduit, 4 #4/0 AWG, #4G. Relocate 42, 20A one pole circuits.

Question: 17 - Drawing E101
Drawing E101 shows (1) 4" conduit from panel "CHDP" to the exterior wall. Are there conductors or cables in this conduit? Please provide the quantity and sizes?

Answer: Control cable in conduit, 10 #10 and 16-2 twisted shielded pair.

Question: 18 - Drawing EP 201
Drawing EP201 Key Note #3 states "Connect to Existing Feeders." What are the conduit and conductor sizes for the two feeds from "MDP" and "DP" to the existing ATS?

Answer: Cable size is 4 #500 MCM, #3G. ***Question 15 is related to this clarification***.

Question: 19 - Drawing EP 201
Drawing EP201 Key Note #8 states "Refer to ES101." This drawing does not appear to be in the list of bid documents. Should it be "Refer to ES100?" Is this one of the eleven conduits?

Answer: Drawing reference should be to ES100. The conduit is for control wiring and is one of eleven conduits (one of the three conduit ductbank referenced). ***Question 17 is related to this clarification.***

Question: 20 - Drawing EP 201
Drawing EP201 Key Note #8 states "Refer to ES101." This drawing does not appear to be in the list of bid documents. Should it be "Refer to ES100?" Is this one of the eleven conduits?

Answer: Duplicate Question. See Question 19.

Question: 21 - Spec section 26 32 13
Section 1.5 G.1.c., the engine manufacturer may not be able to certify compliance as there are aftermarket parts being supplied to bring emissions into compliance; please clarify.

Answer: Emissions control devices (as part of the engine or as separate pollution control equipment) must certify that outlet conditions will comply with project's emission criteria.

Question: 22 - CHP unit
Is the CHP unit supposed to operate in island mode in addition to utility parallel mode?

Answer: The CHP will not operate in island mode.

Question: 23 - CHP application
For a CHP application, monitoring of more than the specified engine parameters are generally required (see points below); please clarify.
a. Exhaust temp, pre/post catalyst;
b. Pressure differential across the catalyst;
c. Individual cylinder temperatures;
d. Gas pressure;
e. Detonation sensing;
f. Lube oil level with auto make up system;
g. Oil temperature;
h. Air/fuel ratio control.

Answer: Air permit will require that catalyst pressure differential, temperature and oxygen content be monitored continuously and recorded daily. The pressure drop across the catalyst shall not exceed 2: w.c. Temperature and oxygen shall be maintained in accordance with the manufacturer's recommendations. All other points listed above shall be measured and /or monitored in accordance with manufacturer's standard offer for this type of application.

Question: 24 - generator protection
For the generator, the following aspects are generally specified for generator protection (see below), and the utility company (PSNH) may have additional requirements; please clarify.
a. Reverse power;
b. Reverse VARS;
c. Over/under voltage;
d. Over/under frequency;
e. Phase imbalance.

Answer: Refer to relay functions identified in Drawing EP202. For installation of the new relay devices, it shall be assumed that new CT and PT will be required for the project, although existing CTs and PTs are present in other service.

Question: 25 - Spec section 26 13 13
Spec section 26 13 13: pg 3, 2.1, only one CHP unit is called for, but spec refers to master control panel (generally used for multiple unit applications); please clarify.

Answer: Description of the paralleling gear as "Master Control" could have been better selected, but it remains a requirement that paralleling gear shall be provided for connection of one CHP unit to the grid.

Question: 26 - Spec section 26 13 13
Spec section 26 13 13: pg 5, As there is only one unit there is no load demand monitor.
a. Is there a need for a transfer switch interface?
b. Please clarify whether this unit is to operate in island mode.
c. Is load following required or is the facility load great enough so that the unit can be base loaded?

Answer: No load demand monitor is necessary, except that import power control is required. No CHP transfer switch is required. CHP unit will not operate in island mode. Facility demand will be higher than CHP electrical capacity most of the time, but the system shall be capable of load following to prevent export of power.

Question: 27 - Spec section 26 13 13
Spec section 26 13 13: pg 10, reference to parallel operation implies that this unit is to operate as a utility peak demand reduction unit, not CHP; please clarify.

Answer: Normal operation of the CHP shall be in parallel with the grid. There is no requirement for Utility Peak Demand Reduction Mode, and paragraph 2.3.C shall be disregarded.

Question: 28 - Spec section 26 13 13
Spec section 26 13 13: Please clarify that no day tank is required.

Answer: Reference to fuel oil tanks and levels are not applicable to this project and shall be disregarded. However, a lube oil day tank is required.

Question: 29 - Dwg EP201
Dwg EP201 shows a CHP switchboard with two identical breakers. One would be the generator paralleling breaker; please clarify the function of the second breaker.

Answer: One breaker shall serve as the paralleling breaker and the other shall serve as the feeder breaker to MDP.